

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ITW



In re Applicant:

Dan GAZIT et al

Serial No.: 10/551,717

Filed: July 14, 2006

For: TAK1-MEDIATED INHIBITION OF
OSTEOGENESIS

Examiner: Not yet Assigned

§
§
§
§
§
§
§
§
§
§
§

Group Art Unit: 1632

Attorney
Docket: 30695

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Enclosed is a PTO Form 1449 which lists citations which may be material to the patentability and examination of the above identified application. Also enclosed are copies of the references cited. These are submitted in compliance with the duty of disclosure defined in 37 CFR 1.56. The Examiner is requested to make these citations of official record in this application.

This Information Disclosure Statement under 37 CFR 1.56 is not to be construed as a representation that a search has been made, that additional matter which is material to the examination of this application does not exist, or that any or more of these citations constitutes prior art.

Respectfully submitted,

Martin D. Moynihan

Martin D Moynihan
Registration No. 40,338

Dated: June 17, 2007



PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person shall be required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	10/551,717
				Filing Date	July 14, 2006
				First Named Inventor	GAZIT Dan et al
				Art Unit	1632
				Examiner Name	Not Yet Assigned
				Attorney Docket Number	30695
Sheet	1	of	3		
U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US-2,609,347	02-2-1952	Wilson	
	2	US-2,653,917	09-29-1953	Hammon et al.	
	3	US-2,659,935	11-24-1953	Hammon	
	4	US-2,664,366	12-29-1953	Wilson	
	5	US-2,664,367	12-29-1953	Wilson	
	6	US-2,846,407	05-5-1958	Wilson	
	7	US-4,843,155	06-27-1989	Chomczynski	
	8	US-5,509,042	04-16-1996	Mazess	
	9	US-5,785,041	07-28-1998	Weinstein et al.	

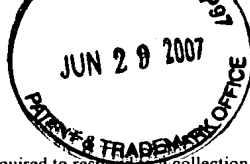
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Documents Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	10	JP 09-163990	06-24-1997	Irie		
	11	PCT WO 99/40202	08-12-1999	Sugita et al.		
	12	EP 1234880	08-28-2002	Matsumoto		
Examiner Signature				Date Considered		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450



PTO/SB/08b (08-03)

Approved for use through 06/30/2006. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT***(use as many sheets as necessary)*

Substitute for form 1449A/PTO				Complete if Known		
Sheet		2	Of	3	Attorney Docket Number	30695
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS						
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.				T ²
	13	Shibuya et al. "Role of TAK1 and TAB1 in BMP Signaling in Early Xenopus Development", The EMBO Journal, 17(4): 1019-1028, 1998.				
	14	Mochida et al. "ASK1 Inhibits Interleukin-1-Induced NF- κ B Activity Through Disruption of TRAF6-TAK1 Interaction", The Journal of Biological Chemistry, 275(42): 32747-32752, 2000.				
	15	Yoshida et al. "Negative Regulation of BMP/Smad Signaling by Tob in Osteoblasts", Cell, 103: 1085-1097, 2000.				
	16	Carninci et al. "Normalization and Subtraction of Cap-Trapper-Selected cDNAs to Prepare Full-Length cDNA Libraries for Rapid Discovery of New Genes", Genome Research, 10: 1617-1630, 2000.				
	17	Yamaguchi et al. "Identification of A Member of the MAPKKK Family as A Potential Mediator of TGF- β Signal Transduction", Science, 270: 2008-2011, 1995.				
	18	Hoffmann et al. "TGF- β -Activated Kinase-1 (TAK1), A MAP3K, Interacts With Smad Proteins and Interferes With Osteogenesis in Murine Mesenchymal Progenitors", Journal of Biological Chemistry, M503368200, P.1-46, 2005.				
	19	Suzawa et al. "Cytokines Suppress Adipogenesis and PPAR-Gamma Function Through the TAK1/TAB1/NIK Cascade", Nature Cell Biology, 5: 224-230, 2003.				
	20	Kimura et al. "BMP2-Induced Apoptosis Is Mediated by Activation of the TAK1-P38 Kinase Pathway That Is Negatively Regulated by Smad6", The Journal of Biological Chemistry, 275(23): 17647-17652, 2000. P.17650, Col.1, Paragraph 3, P.17651, Col.2, Paragraph 2.				
	21	Baulcombe "Diced Defence", Nature, 409: 295-296, 2001.				
	22	Böhm "The Computer Program LUDI: A New Method for the De Novo Design of Enzyme Inhibitors", Journal of Computer-Aided Molecular Design, 6: 61-78, 1992.				
	23	Boshart et al. "Reporter Constructs With Low Background Activity Utilizing the Cat Gene", Gene, 110: 129-130, 1992.				
	24	Caffish et al. "Multiple Copy Simultaneous Search and Construction of Ligands in Binding Sites: Application to Inhibitors of HIV-1 Aspartic Proteinase", Journal of Medical Chemistry, 36: 2142-2167, 1993.				
	25	Eisen et al. "HOOK: A Program for Finding Novel Molecular Architectures That Satisfy the Chemical and Steric Requirements of A Macromolecule Binding Site", Proteins: Structure, Function, and Genetics, 19: 199-221, 1994.				
	26	Gehlhaar et al. "De Novo Design of Enzyme Inhibitors by Monte Carlo Ligand Generation", Journal of Medical Chemistry, 38: 466-472, 1995.				
	27	Glišin et al. "Ribonucleic Acid Isolated by Cesium Chloride Centrifugation", Biochemistry, 13(12): 2633-2637, 1974.				

Signature		Considered	
-----------	--	------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹. Applicant's unique citation designation number (optional). ². Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/08b (08-03)

Approved for use through 06/30/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/551,717
				Filing Date	July 14, 2006
				First Named Inventor	GAZIT Dan et al
				Group Art Unit	1632
				Examiner Name	Not Yet Assigned
Sheet	3	Of	3	Attorney Docket Number	30695
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
	28	Hoffmann et al. "The T-Box Transcription Factor Brachyury Mediates Cartilage Development in Mesenchymal Stem Cell Line C3H10T1/2", Journal of Cell Science, 115: 769-781, 2002.			
	29	Kaminski "Computer-Assisted Drug Design and Selection", Advanced Drug Delivery Reviews, 14: 331-337, 1994.			
	30	Kusanagi et al. "Characterization of A Bone Morphogenetic Protein-Responsive Smad-Binding Element", Molecular Biology of the Cell, 11: 555-565, 2000.			
	31	Ronis et al. "Skeletal Effects of Developmental Lead Exposure in Rats", Toxicological Sciences, 62: 321-329, 2001.			
	32	Meersseman et al. "The C-Terminal Domain of Mad-Like Signal Transducers Is Sufficient for Biological Activity in the Xenopus Embryo and Transcriptional Activation", Mechanisms of Development, 61: 127-140, 1997.			
	33	Moon et al. "Computer Design of Bioactive Molecules: A Method for Receptor-Based De Novo Ligand Design", Proteins: Structure, Function, and Genetics, 11: 314-328, 1991.			
	34	Puissant et al. "An Improvement of the Single-Step Method of RNA Isolation by Acid Guanidinium Thiocyanate-Phenol-Chloroform Extraction", BioTechniques, 8(2): 148-149, 1990.			
	35	Suponitzky et al. "Differential Effects of Systemic Prostaglandin E ² on Bone Mass in Rat Long Bones and Calvariae", Journal of Endocrinology, 156: 51-57, 1998.			
	36	Verschuere et al. "SIP1, A novel Zinc Finger/Homeodomain Repressor, Interacts With Smad Proteins and Binds to 5'-CACCT Sequences in Candidate Target Genes", The Journal of Biological Chemistry, 274(29): 20489-20498, 1999.			
	37	Yang et al. "Evidence That Processed Small DsRNAs May Mediate Sequence-Specific mRNA Degradation During RNAi in Drosophila Embryos", Current Biology, 10: 1191-1200, 2000.			

Signature		Considered	
-----------	--	------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹. Applicant's unique citation designation number (optional). ². Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.